Introduction

Political science has developed a fairly good understanding of the political economy of *democracy*. Extant research suggests that democracies grow faster (Acemoglu et al., 2014; Gerring et al., 2005), provide more public services (Lake and Baum, 2001), reach higher levels of human development (Gerring et al., 2012; Ross, 2006, for a contrary view), compensate more for losses stemming from trade liberalization (Rudra and Haggard, 2005), and are more equal (Reuveny and Li, 2003) than autocracies. Far less is know about the political economy of *democratization*. Democratization is not simply democracy to a lesser degree. Rather, it is the non-linear, non-deterministic process towards it, which introduces new political incentives and institutional constraints, often in sequence, not simultaneously, and sometimes with countervailing effects. This, in turn, gives democratizing regimes specific characteristics – a fact that has been under-appreciated in the literature (a notable exception is Son, 2015). In this article, we seek to uncover these characteristics in the context of political budget cycles.

Political budget cycles (PBCs) designate periodic fluctuations in fiscal policies induced by the cycle of elections (Alt and Rose, 2009, 845). Recent research implies that democratization has a non-linear effect on PBCs: positive at the autocratic end of the regime spectrum; negative at the democratic end. In this article, we theoretically develop and empirically test this non-linear effect. First, we argue that democratization is (at the very least) a two-dimensional process, involving the introduction of more substantial constraints on executive powers (*executive constraints*), and an intensification of the struggle for power (*political competition*). The two have

reverse effects on PBCs: the first reduces incumbents' ability to create PBCs; the second increases their incentive. Second, we argue that while relatively unconstrained executive powers and some degree of political competition are necessary conditions, it is the fear of losing elections (*electoral competitiveness*) that triggers PBCs. If incumbents are confident of their re-election, they do not create PBCs. Third, we show that because of the empirical covariation between executive constraints and political competition along the regime spectrum, PBCs occur primarily in hybrid regimes. In most autocracies, there is no incentive; in most advanced democracies, incumbents do not have the ability to create PBCs.[1] As a result, the observed (aggregate) effect of democratization is non-linear: positive at the autocratic end of the regime spectrum, where the fluctuations are driven by rising levels of political competition and triggered by electoral uncertainty; negative at the democratic end, where they are contained by the growing number of constraints on executive powers.

We test this argument against data on public spending in 112 countries, covering the entire regime spectrum over the period from 1960 to 2006. The dataset partly draws on reports from the International Monetary Fund's (IMF) statistical office and documents from the Fund's archives. It significantly improves on existing data by extending it back in time and including more observations, particularly from the autocratic end of the regime spectrum. Like Rogoff (1990) and others, we

[1] We recognise the findings of Alt and Lassen (2006), Streb et al. (2009), and others, suggesting that in some democracies, incumbents do have the ability, provided there is little fiscal transparency (Alt and Lassen, 2006) or few parliamentary veto players and little compliance with budget laws (Streb et al., 2009).

focus on spending rather than revenues or debt.[2] Our empirical findings support the theoretical argument: incumbents are more likely to create PBCs when (1) their decision-making powers are relatively unconstrained, (2) multiple parties compete for power in a system that allows incumbency defeat, and (3) win-margins in the last elections were relatively small. In addition, we demonstrate that executive constraints and political competition covary along the regime spectrum and that, as a result, PBCs occur primarily in hybrid regimes.

The article contributes to the PBC literature in three ways. First, it proffers a more nuanced understanding of the effect of democratization by pointing to the multiple dimensions of democratization and their countervailing effects on PBCs. Second, it empirically demonstrates the non-linear effect of democratization that has been implied in the PBC literature. Third, it is the most comprehensive study of PBCs to date covering the entire range of regimes, from full autocracies to full democracies.

The article proceeds as follows. In the following two sections, we develop our argument by reviewing the PBC literature, introducing our two-dimensional conceptualization of democratization, and discussing the effect of democratization on PBCs. We then define our variables, describe our estimation strategy, present the findings, and carry out robustness tests. Finally, we draw conclusions and propose areas of future research.

[2] We also assume that voters value the goods and services that public spending provides, not that expenditures are used to boost economic growth.

Democratization and PBCs

Democratization has important political economy implications. It has been shown to affect growth (Tavares and Wacziarg, 2001) and to condition the effect of inequality on growth (Persson and Tabellini, 1994). We also know that it fosters trade (Milner and Kubota, 2005) and capital account liberalization (Mukherjee et al., 2014; Milner and Mukherjee, 2009); contributes to economic stability (Rodrik, 2000); and stimulates social spending (Ross, 2006). But what is its effect on PBCs? The literature does not give a clear answer. However, it does offer three arguments that link democratization to PBCs: two that have to do with the incumbents; one that has to do with the voters.

The first argument is that stronger checks and balances reduce the incumbent's ability to create PBCs. This argument can be traced back to the Rogoff model, which assumes that incumbents control spending. If not, or if the incumbent only partially controls spending, PBCs are less likely to occur. In one of the first studies of PBCs outside Western Europe and North America, Schuknecht (1996, 158) notes that "in developing countries, checks and balances are often little developed and the incumbent government has significant monetary and budgetary discretion. We should therefore expect election-oriented behavior by governments in developing countries to be quite pronounced and straightforward". Consistent with the argument, he finds large PBCs in developing countries. In a similar vein, more recent studies have focused on different types of checks and balances: legislative veto players and compliance with fiscal laws (Streb et al., 2009, 427), fiscal transparency and party polarization (Alt and Lassen, 2006), party institutionalization (Shelton, 2014), and

the checks and balances produced by presidential systems (Persson and Tabellini, 2003b). Some of the studies link the argument to democratization (e.g., Shelton, 2014). However, most suggest that in the absence of checks and balances, PBCs occur even in advanced democracies (Streb et al., 2009; Alt and Lassen, 2006).

The second argument is that political competition increases the incumbent's incentive to create PBCs. The Rogoff model generally assumes elections are competitive. However, Rogoff (1990, 34) himself, questions whether PBC theory has "any bearing on countries such as Mexico and Japan, in which a single party dominates political life?"[3] Testing the argument precisely in the case of Mexico, Gonzalez (2002) finds that the spending fluctuations have been largest during the country's most democratic periods. She attributes this to the "bigger threat for the ruling party to lose power" (Gonzalez, 2002, 221). Block, Ferree, and Singh (2003) test the argument in a sample of Sub-Saharan African countries. They find that PBCs occur only when elections are competitive and conclude that "incumbents' incentive to create PBCs in nascent democracies is strong, but contingent on multiparty competition" (Block et al., 2003, 462). Vergne (2009) tests the argument in developing countries more broadly and finds similar patterns. She also finds that the spending fluctuations are largest in founding elections, when incumbents "have an incentive to deter the entry of future challengers" (Vergne, 2009, 74).

[3] Rogoff concludes that it does, arguing that "even in dominant-party systems, the country's leaders still generally care about their party's margin of victory" (Rogoff, 1990, 34). While we do not disagree, we argue that the incentive is still stronger when incumbents fear losing.

The third argument linking democratization to PBCs is that voter experience and information reduces the incumbent's ability to create PBCs. This argument can also be traced back to the Rogoff model, which assumes asymmetric information. If information were symmetric, voters would not reward the incumbent for the spending increases and the incumbent would not have an incentive to create PBCs. Brender and Drazen (2005; 2007) explicitly link the information asymmetries to democratization. In their study, they find that the PBCs are larger in "new democracies", where "voters are inexperienced with electoral politics or may simply lack the information needed to evaluate fiscal manipulation" (Brender and Drazen, 2005, 1273).[4] Testing the argument in a new democracy, Russia, Akhmedov and Zhuravskaya (2004) find that the "cycles have become smaller over time" and that "this is consistent with the view that voters and independent media learn as democracy matures" (Akhmedov and Zhuravskaya, 2004, 1334). Shi and Svensson (2006) also emphasize information in their study. However, they suggest that in the absence of information, PBCs occur even in advanced democracies, echoing the findings of Alt and Lassen (2006) and Streb et al. (2009) regarding the effect of legislative veto players and compliance

[4] Their dataset contains 108 countries. However, they exlude observations with a Polity score below 0, leaving them with 68 democracies. It should be noted that the Polity threshold for full democracies is usually 6. Countries with a Polity score between -6 and 6 are considered anocracies.

with fiscal laws, and of fiscal transparency and party polarization.[5]

What is then the aggregate effect of democratization on PBCs? Careful reading of the literature implies that it is non-linear: positive at the autocratic end of the regime spectrum; negative at the democratic end. Brender and Drazen (2005; 2007), for example, exclude observations with a Polity score below 0, i.e; observations in the autocratic half of the regime spectrum, stating that manipulating spending before elections "only makes sense in countries in which elections are competitive" (Brender and Drazen, 2005, 1274). Therefore, although they find a containing effect of democratization, their study actually implies a non-linear effect, peaking in countries with a Polity score around 0.[6] Shi and Svensson (2006) do not exclude observations but recognize that "in situations where political rights are restricted and voting outcomes can be manipulated, elections need not trigger a change in fiscal policy" (Shi and Svensson, 2006, 1384). Their findings, therefore, also imply a non-linear effect along the regime spectrum: positive at the autocratic end, although not necessarily negative at the democratic end. Finally, Vergne (2009)'s finding that the spending fluctuations are largest in founding elections and that they "disappear as there is

[5] Shi and Svensson (2006) also outline another mechanisms, namely that checks and balances reduce the incumbent's ability to extract rents and therefore her incentive to create PBCs. This argument is in line with the foregoing discussion of executive constraints and incentives.

[6] Streb, Lema, and Torrens (2009) also exclude observations with a Polity score below 0.

more experience with elections", also suggests a non-linear effect of democratization.[7]

The literature suffers from two major shortcomings. First, it consist of either single-country studies that test the effect of democratization across time or across sub-national units (Akhmedov and Zhuravskaya, 2004; Gonzalez, 2002) or cross-country studies that test the effect across a limited number of countries, usually at the democratic end of the regime spectrum (Brender and Drazen, 2005, 2007; Vergne, 2009).[8] As a result, the democracy variable varies very little and the effect of democratization is tested only within very narrow parameters. This is problematic, when, as we argue and the literature suggests, the effect of democratization is non-linear along the regime spectrum. Demonstrating this requires observations from the entire regime spectrum.

The second shortcoming is that the literature is based on one-dimensional conceptualizations of democratization, measured either dichotomously (Shi and Svensson, 2006; Shelton, 2014; Brender and Drazen, 2005, 2007; Streb et al., 2009) or by the number of competitive elections held in a country (Brender and Drazen, 2005, 2007; Vergne, 2009). While one-dimensional conceptualizations and dichotomous measures

[7] Vergne (2009)'s finding that the cycles disappear as countries gain more experience with elections only applies to PBCs in aggregate spending. In fact, one of her main findings is the PBCs endure in disaggregate spending, more specifically current expenditures.

[8] This critique has been also been voiced by Shi and Svensson (2006), who include a few countries from the autocratic half such as Egypt and Syria; and by Persson and Tabellini (2003b).

may provide some initial guidance regarding the effect of democratization,[9] they are problematic when the institutional configuration of countries vary independently of their regime classification. For example, some autocracies may have higher levels of fiscal transparency than democracies,[10] and if the findings of Alt and Lassen (2006) and others are correct, such autocracies should not produce PBCs. One-dimensional conceptualizations and dichotomous measures of democratization also miss substantial within-type variations. Finally, as democratization itself is not a linear process, but can occur in a piecemeal fashion, accompanied by advancements in one institutional dimension – such as competition – and stagnancy in others (Capoccia and Ziblatt, 2010), one-dimensional conceptualizations fail to grasp the gradual nature of democratization which, in itself, defines the strategic space within which PBCs are created. Therefore, we consider it a necessary first step to unpack democratization and identify how it affects the institutions that shape the ability and incentives of incumbents to create PBCs.

A Two-Dimensional Conceptualization of Democratization

We propose a two-dimensional conceptualization of democratization that focuses on *executive constraints* and *political competition*. While we recognize there are other dimensions of democratization, the most important of which is perhaps public partic-

[9] See, for for example, the literature on growth in autocracies and democracies (Przeworski et al., 2000; Boix, 2003).

[10] A country like Singapore comes to mind.

ipation (Dahl, 1971), we argue that executive constraints and political competition are pivotal for the purposes of this study as they have direct bearings on incumbents' abilities and incentives to create PBCs.[11] The aggregate effect of democratization thus depends on its disaggregate composition: if democratic advancements are driven by the introduction of more substantial constraints on executive powers, the effect is negative; if they are driven by more intense political competition, the effect is positive. In the following, we describe the two dimensions and their effects on PBCs in greater detail.

Executive Constraints and Political Competition

The first dimension is executive constraints. This dimension is similar to what Linz and Stepan (1996) and Linz (2000) call "leadership constraints", although narrower in that it focuses specifically on constraints on executive decision-making powers.[12] The basic idea is that executive decision-making powers must be restricted for countries to be democratic, and that countries with more restrictions are more democratic than countries with fewer restrictions. While we recgonise that constraints can derive from intra-party opposition in dominant-party systems, the military in coup-prone states, or an independent judiciary as is the case in many hybrid regimes, in this article,

[11]For a discussion of abilities and incentives in the context of PBCs, see Alt and Rose (2009).

[12]For Linz and Stepan (1996), leadership constraints include constraints on the selection of leaders, such as constitutional requirements for elections and term limits.

we focus on constraints in the form of an independent legislature and a functioning opposition. This is consistent with our general emphasis on formal institutions.

The constraints on decision-making powers are important as they have direct bearings on incumbents' ability to create PBCs. If their decision-making powers are unconstrained, for example, because the chief executive rules by decree or, as the leader of the ruling party, controls a majority of the members of parliament, incumbents can easily create PBCs. By contrast, if their decision-making powers are substantially constrained, for example, because the ruling party does not hold a majority in parliament, creating PBCs becomes difficult, as it requires negotiations with, and probably concessions to, opposition parties or individual members of parliament. The concept of executive constraints thus captures many of the containing institutional effects found in PBC research: presidentialism (Franzese, 2002) and first-past-the-post elections (Persson and Tabellini, 2003a), for example, contain PBCs by reducing the government's powers over individual members of parliament, as do the existence of veto players (Streb et al., 2009; Streb and Torrens, 2013) and stringent fiscal rules (Alt and Lassen, 2006; Rose, 2006), which limit governments' fiscal leeway.

The second dimension of democratization we propose is political competition. The idea, here, is that countries, to be democratic, must allow political competition, and that countries with more competition are more democratic than countries with less competition. The concept is similar to what Dahl (1971) calls "contestation" and thus relates to civil liberties, such as freedom of expression, assembly, and association, without which contestation is restricted. However, we focus on one specific aspect

of competition, namely whether or not multiple parties compete for power. If the only oppositional activity permitted is within the ruling party of a one-party state, politics is uncompetitive.[13] By contrast, if multiple parties operate freely, contest elections regularly, and accept defeat when they lose, politics is competitive.

As executive constraints determine incumbents' ability to create PBCs, political competition shapes their incentive. If politics is uncompetitive, there is no real risk of losing, and therefore no incentive to create PBCs. By contrast, if the possibility of government defeat exists, there is an incentive for fiscal manipulation. We recognize that other factors may affect incumbents' incentives, such as ego-rents (Shi and Svensson, 2006), endogenous timing of elections (Alesina et al., 1993), and constitutional term limits (Kayser, 2005). However, we consider these factors secondary to political competition.

Electoral Competitiveness

We have argued that the level of executive constraints and political competition defines the strategic space within which incumbents manipulate spending before elections. However, no level of executive constraints and political competition can, by itself, create PBCs. To trigger the fluctuations, incumbents must fear losing. We

[13] Comparing inter- and intra-party competition, Sartori (1976, 44, italics in original) concludes that "all in all, nothing goes to show how and why intra-party rivalry can be a substitute for, or assimilated to, inter-party competition. Intra-party dissent *alone* expresses - and induces - a 'private' far more than a 'functional' contest".

capture this fear in the concept of electoral competitiveness. Distinguishing between competition and competitiveness, we draw on Sartori (1976, 218) who explains the difference as follows: "competition is a structure, or a rule of the game [while] competitiveness is a particularly state of the game." Thus, there can be competition without competitiveness, but no competitiveness without competition; or, as Sartori puts it, "competition is [...] potential competitiveness" (1976, 218). To illustrate his point, Sartori gives the example of a dominant-party system, which "abides by the rules of competition but testifies to low competitiveness, or even to no near-competitiveness" (1976, 218). "At the other extreme", he continues, "competition is 'competitive' when two or more parties obtain close returns and win on thin margins" (1976, 218).

The distinction is useful for the purposes of this study as it captures the difference between political competition, as a dimension of democratization that conditions PBCs, and electoral competitiveness, as the factor that triggers them. The two are related in that political competition is a precondition for electoral competitiveness. Political competition thus increases the incentive to create PBCs as it involves the possibility of electoral competitiveness, but incumbents do not create PBCs unless they fear losing.

The idea is not new.[14] For example, Alesina, Cohen, and Roubini (1993), in one of the first tests of the Rogoff model, speculate that PBCs may only occur "when incumbents are unsure of reappointment and need an extra electoral boost" (Alesina et al., 1993, 21). Empirically, competitiveness has been tested in only developed

[14]To our knowledge, the first to introduce the idea is Frey and Schneider (1978), who find that in the US current spending decreases with the incumbent's popularity.

countries and only sub-national level (Schultz, 1995; Price, 1998; Alt and Rose, 2009; Aidt and Eterovic, 2011; Pettersson-Lidbom, 2001; Schneider, 2010). We find the same dynamic in developing countries.[15]

Bringing Regime Types Back In

Before turning to the empirical analysis, we briefly consider the implications of our argument on the occurrence of PBCs across regime types. We have argued that one-dimensional conceptualizations and dichotomous measures miss the countervailing effects of different dimensions of democratization. In principle, this means that PBCs can occur in any country insofar as there are sufficiently few constraints on the executive, politics is sufficiently competitive, and the incumbent fears losing the elections. In practice, as we shall demonstrate below, PBCs occur primarily in hybrid regimes because executive constraints and political competition covary along the regime spectrum. In countries with few constraints on the executive, politics also tend to be uncompetitive. If parliament cannot initiate or veto legislation, the political space is significantly reduced. By contrast, in countries where there are substantial constraints on the executive, politics tends to be competitive. If parliament regularly

[15]Recently, Hanusch and Magleby (2014) have suggested that, under conditions of high party polarization, even incumbents who are likely to lose may have an incentive to create PBCs, namely to allocate resources to their preferred areas, while leaving the financing to their successors. While we do not disagree with the argument, it goes beyond the scope of this article to test it.

rejects government requests for funding, or rejects budgets altogether, it is often a consequence of a strong and well-organized opposition able to break the voting discipline of the governing party or coalition.

Figure 1 summarizes our argument and plots distribution of our data across the spectrum of executive constraints and political competition. Darker areas indicate more observations. The figure shows how PBCs vary *theoretically* along the diagonal axis from the upper left corner to the lower right: least likely in countries with low levels of political competition and many constraints on the executive, and most likely in countries with high levels of political competition and few constraints on the executive. Regimes, by contrast, tend to vary *empirically* along the diagonal axis from the lower left corner to the upper right: from full autocracies with low levels of political competition and few constraints on the executive, to full democracies with high levels of political competition and substantial constraints on the executive. The net result is that PBCs occur primarily in hybrid regimes, when incumbents fear losing elections.

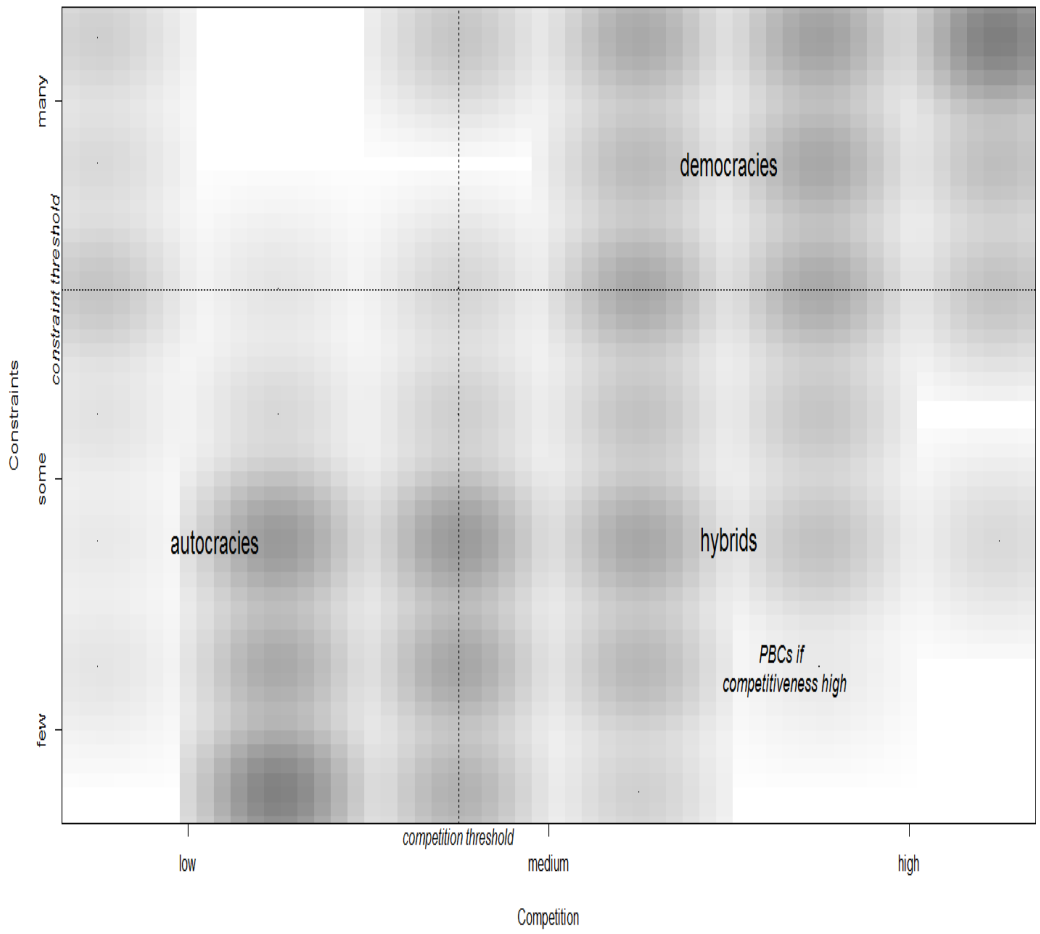

Figure 1: PBCs across Regime Types

Note: The shaded areas represent the empirical distribution of regimes along the two dimensions; darker areas signify more observations. We use *Parcomp* to measure competition and *Xconst* to measure constraints. Both are taken from the Polity dataset (Marshall et al., 2011). The competition threshold is set at *Parcomp=2*; the constraint threshold at *Xconst=5*. The thresholds will be explained in greater detail later.

Empirical Analysis

This section subjects our theoretical argument to empirical scrutiny, using time-series cross-sectional analysis of spending data in 112 countries, from across the regime range, covering the period from 1960 to 2006.[16] The findings of our analysis support the argument that the occurrence and the size of PBCs depend on the specific combination of executive constraints, political competition, and electoral competitiveness. The section presents three key findings. First, we find evidence of important threshold effects with regard to constraints and competition, implying that above a maximal level of constraints and below a minimal level of competition PBCs do not occur. Second, we show that incumbents manipulate the budget as a function of electoral competitiveness. Third, given the empirical covariation between constraints and competition along the spectrum of political regimes, we provide evidence that PBCs are prevalent in hybrid regimes.

Dependent Variable

To measure pre-electoral manipulation of the budget, we use *Budget balance* as our primary dependent variable.[17] Measured as a share of the country's GDP, the variable is negative if the government runs a budget deficit and positive in the case of a surplus. In addition, we provide an alternative measure of PBCs, *Government spending*, to ascertain the robustness of our findings. The variable is measured on a per capita

[16] All included countries are listed in the Online Appendix.

[17] Summary statistics for all variables can be found in the Online Appendix.

basis, using constant 2005 $US (PPP).[18] By using a per capita measure as opposed to GDP-weighted measures, we ensure that spending increases are not uniquely driven by variations in the denominator. Recent research has demonstrated that elections affect not only aggregate spending levels but also the disaggregate composition of spending (Vergne, 2009). While we acknowledge the importance of this body of research, it goes beyond the scope of this article to examine how democratization might affect budget allocations.

The underlying data for both measures are taken from two sources: (i) for OECD members, all data are provided by the organization's statistical office (OECD, 2015); for non-OECD countries, we use a new dataset on Global State Revenues and Expenditures (GSRE) (Lucas and Richter, 2012).[19] This dataset is based on spending and revenue data from historical documents of the International Monetary Fund (IMF), stored in the IMF's archives in Washington, D.C. It uses the annual reports of the IMF's regional departments, which were made available to researchers in the early 2000s. These reports are usually available from the year of a country's membership in the IMF, with the most recent documents being declassified after a period of five years.

It is important to note that the statistical data contained in the annual reports

[18]The variable is constructed by dividing the total government expenditures in local currency unit (LCU) by the nominal GDP in LCU. This ratio is then multiplied by GDP per capita values taken from the Penn World Tables (Heston et al., 2006).

[19]The only exception is India which is, as yet, not included in the GSRE. We therefore use data from the IMF Government Finance Statistics.

are collected independently of the IMF's statistical department, which produces the widely used IMF Government Finance Statistics (GFS). This has both advantages and disadvantages. A disadvantage is that the different regional departments are likely to apply slightly different accounting standards, which might lead to distortions of the same measure across countries. While this is a valid concern for more fine-grained measures, such as specific types of taxes or functional expenditures, it is less of an issue for more aggregate indicators, such as the ones used herein. An advantage of using the annual reports is that the data are likely to be more valid than those provided by the GFS. The GFS is based on an annual survey sent out to member states, whereas data in the annual reports are collected by the country and sub-regional representative offices of the IMF and "negotiated" with national authorities. It is not rare that this process leads to a revision of the figures when confronted with disagreement from the IMF experts.[20]

Besides improved validity, the GSRE substantially increases the number of observations. While the GFS only starts in 1972, the GSRE dataset goes further back in time, for some countries until the end of World War II. Considering our dependent variable, *Budget balance*, the GSRE contains 3932 country-year observations compared to only 2118 in the GFS. Furthermore, the GFS does currently not have one continuous time series from 1972 until present. Rather, due to changes in the IMF's classification scheme, there are currently two time series running respectively from 1972 to 2001 and from 1990 until present. The GSRE, by contrast, provides

[20]This description is based on correspondence with the IMF statistical department as well as members of regional departments.

one continuous time series of comparable data. Taken together, the GSRE is not a mere extension of the GFS but represents an alternative data source to analyze public revenues and expenditures.[21]

Explanatory Variables I and II: Constraints and Competition

Concerning the measurement of constraints, we use the Polity indicator *Xconst* to capture the level of constraints weighing on the chief executive. According to the authors of the Polity IV dataset, the variable "refers to the extent of institutionalized constraints on the decision-making powers of chief executives" (Marshall et al., 2011, 24). It thus adequately captures the degree to which incumbents are constrained in their ability to put into action the political decisions leading to PBCs. Each country is coded on a 7-point scale, ranging from (1) unlimited authority to (7) executive parity and subordination. The variable assumes an underlying continuum of different levels of political constraints imposed on the executive.

With regard to competition, we seek a measure that allows us to distinguish elections that, in principle, can be lost from those that are merely bogus. Hyde and Marinov (2012) propose a minimalist measure of competition which only takes into account characteristics of elections. Specifically, they consider elections competitive if opposition is allowed, more than one party is legal, and there is a choice of candidates on the ballot. Whilst we acknowledge that these are essential attributes

[21]The correlation between both datasets is still very high, reaching 0.72 percent in the case of budget balance and total expenditures.

of competitive elections, we doubt that these criteria alone guarantee meaningful political competition. Research on electoral authoritarianism (Schedler, 2002; Levitsky and Way, 2002; Diamond, 2002) has shown that incumbents have a panoply of measures at their disposal to efface electoral competition. More importantly, most of these instruments are not limited to elections themselves but happen outside the context of impending elections. Opposition parties can be banned shortly before elections or be subject to such political harassment that their chances of electoral success are crippled. Thus, even if elections are deemed competitive in a minimalist sense, in the absence of additional institutional safeguards that ensure the organization of political competition, incumbents can still be certain of winning.

We therefore combine two different indicators of political competition. First, our variable *Election* is based on Hyde and Marinov's (2012) definition of competitive elections. Countries that have never had a competitive election as defined above are excluded from the analysis.[22] Since we expect PBCs to be particularly pronounced when elections determine the leadership of a country, we restrict our analysis to "politically important elections"; that is, elections where the chief executive's office is at stake.[23] The election dummy variable equals 1 in an election year and 0 otherwise. However, we adjust the variable to be consistent with the fiscal year when spending

[22]There are 41 such countries in our dataset

[23]In practice, this means that we do not consider parliamentary elections in presidential political systems. To select politically important elections, we combine data from the Arthur Banks Dataset (2011) on the type and the mode of selection of the chief executive.

data are reported for a fiscal year different than the calendar year. This adjustment is consistent with common practice in the literature (e.g., Block et al., 2003; Brender and Drazen, 2005).

Second, we use the Polity indicator *Parcomp* to account for restrictions on political competition more broadly. The variable measures "the extent to which alternative preferences for policy and leadership can be pursued in the political arena" (Marshall et al., 2011, 26). Ranging from 1 (repressed) to 5 (competitive), the scale conceptualizes political competition as a continuum. For example, a *Parcomp* score of 1 (repressed) signifies that "no significant oppositional activity is permitted outside the ranks of the regime and ruling party" (Marshall et al., 2011, 26). A score of 2 (suppressed) indicates severe limitations of political participation and an exclusion of at least 20 percent of the adult population from participation. By contrast, polities reaching a *Parcomp* score of 5 (competitive) guarantee unconstrained and regular competition between political actors.[24]

Explanatory Variable III: Competitiveness

To proxy competitiveness, we resort to the most commonly used indicator in the literature: win-margins. The variable has been widely used, particularly in the

[24]It has rightly been pointed out that the *Parcomp* variable can have non-linear effects as it codes "factional" competition at the intermediate level, which is conceptually different from other levels of the variable (Vreeland, 2008). We address this point in our robustness checks in the Online Appendix.

North American context, to study electoral turnout (Southwell and Burchett, 2000; Endersby et al., 2008; Blais and Dobrzynska, 1998) and the characteristics of the party system (Abramowitz et al., 2008; Koetzle, 1998; Trounstine, 2006; Holbrook and Tidmarch, 1993). Capturing the closeness of elections, win-margins can be considered a reliable indicator of competitiveness of elections.

The variable *Winmargin* measures the incumbent's win-margin, in percent, in the last elections. It ranges from 0 to 100, with lower values indicating higher levels of competitiveness. In the case of presidential elections, the margin consists of the difference between the winner's vote share minus the vote share of the runner-up.[25] As global data on vote shares in parliamentary elections are hard to come by, win-margins in parliamentary elections are calculated as the difference between the winning party's (or party coalition's) share of seats minus the opposition's share. We acknowledge that, depending on the type of electoral system, vote and seat shares can diverge considerably in parliamentary systems, which might distort our measurement. While there is no easy fix for this problem, seat shares eventually determine the balance of power in parliament and might thus be considered the preferable indicator of competitiveness. This being said, we also address this issue in our estimation strategy by running regressions with and without legislative elections.[26] Data on electoral results are taken from three main sources: the Election Results Archive

[25]If no candidate was elected in the first round, we took the results of the second round to calculate the win-margin; but we also use first-round results as a robustness test in the Online Appendix.

[26]Results are available in the Online Appendix.

(2012), Psephos (Carr, 2013), and the World Bank (2013).

To take into account the heterogeneity of our sample, we make two adjustments to the *Winmargin* variable. First, we code *Winmargin* zero in the case of (a) first politically important and competitive elections after independence, and (b) founding elections after an autocratic interlude. In first and founding elections, we expect electoral confidence to be very low and thus insecurity to be at its maximum. This heightened insecurity stems from the unpredictable consequences of boosts in voter turnout, as voters are "stimulated to participate by an open contest" (Bratton and Van de Walle, 1997, 210) following an opening of the political system, and the absence of any real knowledge of voter preferences. We acknowledge that this is a strong assumption and therefore run robustness tests without these founding elections available in the Online Appendix. Second, following convention in PBC research (e.g., Efthyvoulou, 2011), we code *Winmargin* zero in any year without electoral competition as the level of competitiveness is not expected to affect spending outside election years.[27]

[27]In the Online Appendix, we test this claim by carrying levels of competitiveness forward until the next election and interacting this variable with our election dummy. The substantive finding remains robust. The Online Appendix also includes a graphical display of the distribution of *Winmargin* and the change of *Winmargin* between elections.

Control Variables

The regression includes a number of standard socioeconomic and political variables to control for the effect of potential confounders. Since wealthier countries might find it easier to run higher deficits prior to elections, we control for *GDP p.c. (logged)*. In addition, variations in the economic cycle tend to affect the fiscal balance as years of strong economic growth entail higher revenues from taxes and vice-versa. We thus include *Growth* as a control variable. Data for both variables are taken from the Penn World Tables (Heston et al., 2006).

Varying levels of government revenues are also likely to influence PBCs: positively by providing incumbents with the financial resources to create PBC; negatively by signaling fiscal prudence and thus strengthening incumbents' re-election prospects. We therefore include three variables that measure the level of available resources: *Tax revenues/GDP*, taken from the GSRE (Lucas and Richter, 2012) and the OECD (2015) respectively, accounts for the amount of direct and indirect taxes accrued to the government, weighted by the country's GDP. *Rents p.c. (logged)* is taken from Haber and Menaldo (2011) and measures the government's income from extractable resources, mostly oil, in logged constant 2007 $US per capita. *Aid p.c. (logged)*, measured in constant 2008 $US per capita, captures the effect of foreign aid on the government's distributive capacity and is based on data from the World Bank (2010).[28]

[28]Note that no OECD country has been a recipient of foreign development aid in the time period under observation.

The variable *IMF* indicates whether a country participated in an IMF program in a given country year. Since fiscal austerity has been a widespread corollary of IMF conditionality, IMF agreements are expected to limit a government's ability to contract new debt and hike up the deficit (Hyde and O'Mahony, 2010). We use an updated version of Dreher (2006) to obtain the data. Likewise, the level of a country's *Debt service* could negatively affect the government's borrowing capacity and can thus impede the incumbent's ability to manipulate the budget. The variable is measured as a share of the gross national income and taken from World Bank (2010) and OECD (2015) respectively. Finally, it might be the case that more experienced incumbents are more skillful in manipulating spending opportunistically (Aidt and Eterovic, 2011). We control for this possible *Tenure* effect by including a count variable of the number of years an incumbent has been in office, using the Archigos dataset (Goemans et al., 2009).[29]

[29]Studies of PBCs in early 19th century UK demonstrate that the introduction of universal suffrage in 1921 affected spending allocation (Aidt and Mooney, 2014). Based on this finding, it could be argued that we should control for universal suffrage. However, as all countries in our dataset had universal suffrage throughout the sample period, with the exception of South Africa, we refrain from including a dummy in the regressions.

Estimation Strategy and Model

In view of our theoretical argument, we propose a subsample strategy to test the effect of executive constraints, political competition, and electoral competitiveness. The estimation strategy proceeds in three steps. First, we explore whether PBCs occur below a minimum level of competition. We choose a *Parcomp* level of 2 as a threshold for meaningful competition, excluding both repressed and suppressed competition. In doing so, we make sure that political opposition is not systematically repressed, candidates are not ruled off ballots, access to media is guaranteed, and at least 80 percent of the adult population are allowed political participation (Marshall et al., 2011, 26-27). Second, we test whether PBCs occur above a maximal level of constraints on the executive. We propose a threshold between *Xconst* levels 5 and 6, meaning that we distinguish between cases of complete or nearly complete subordination of the executive and more limited levels of executive constraints. At *Xconst* levels of 5 and below, most requests for funds are approved by the legislature (Marshall et al., 2011, 25), which gives the incumbent sufficient institutional leeway to hike up spending prior to elections. Third, we estimate the subsample in-between both thresholds ($Parcomp > 2$, $Xconst < 6$). Our theory predicts that PBCs should not occur in the first two subsamples, but occur in the latter conditional

upon competitiveness.[30]

To estimate our regression, we use the following standard model as suggested in the literature (e.g., Shi and Svensson, 2006):

$$Y_{it} = \beta_0 + \beta_1 Y_{it-1} + \beta_2 Election + \beta_3 Election \times Winmargin + \beta_4 X_{it} + N_i + T_t + \varepsilon_{it},$$

where Y_{it} represents the budget balance, β_0 is a constant, Y_{it-1} is the one-period lag of the dependent variable, X_{it} is a vector of control variables, N_i and T_t are country and period fixed effects, and ε_{it} represents the error term. A number of points should be noted. First, as the budget balance is characterized by high levels of inertia, we include the lag of the dependent variable to purge the regression of serial correlation.[31] Second, there are a number of possible country-specific confounders for which it is hard to control. For instance, the median voter's preference for redistribution varies across countries, which might affect the incumbent's propensity to engage in deficit spending. We therefore include country fixed effects to prevent this kind of omitted variable bias. Similarly, we add time fixed effects to control for periodical shocks in the panel.[32] Third, we use robust standard errors that adjust

[30] We empirically demonstrate further below and in the Online Appendix that the choice of these thresholds is justifiable. We also present results from a triple interaction between *Election*, *Winmargin*, and *Xconst* and *Parcomp* respectively, which are in line with the general argument of this paper.

[31] A Breusch-Godfrey test indicates that there is no remaining serial correlation of a higher order.

[32] A Hausman test also suggests the use of country and year fixed effects.

for within-country correlation to deal with the presence of heteroskedasticity in our panel.[33]

The regression is estimated using ordinary least squares (OLS). We are aware that autoregressive models combined with country fixed effects make the parameter estimates potentially liable to bias (Nickell, 1981). However, given an average length of 23 years per time series, the bias becomes very small. Moreover, Beck and Katz (2011) have shown that alternative estimators actually perform worse in the presence of long time series. Finally, given that *Winmargin* is coded zero in years without elections, the variable drops out as a base term in the regression.[34]

Main Findings

Table 1 presents our results using *Budget balance* as the dependent variable. Table 2 replicates the same set of regressions for *Government spending*. Models 1, 3, and 5 test the effect of elections without conditioning for competitiveness. In Models 2, 4, and 6, an interaction term between *Winmargin* and *Election* is added. Substantively, both tables provide support for our hypotheses about the link between executive constraints, political competition, and electoral competitiveness. Considering Models 1 and 2, it appears that PBCs do not occur below a minimal level of political competition. Wherever opposition faces outright repression or is suppressed

[33]Panel-specific heteroskedasticity was detected using a modified Wald test.

[34]A continuous version of *Winmargin* is tested in the Online Appendix. The substantive findings remain unchanged.

by liberticide restrictions, incumbents seem to have little incentive to waste scarce resources on elections with a certain outcome. As competition is a precondition for competitiveness, the insignificant coefficient is as expected. We do not rule out the possibility that autocracies exhibit PBCs in disaggregate or subnational spending (Blaydes and Kayser, 2011; Gao, 2009) but our analysis strongly suggests that they do not exhibit PBCs in aggregate spending. Models 3 and 4 show a similar picture with regard to the effect of constraints. Although the coefficients of *Election* have the right sign, they are both far from conventional levels of statistical significance. The results thus suggest that if the constraints on incumbents are too high, they are unable to manipulate the budget despite the presence of a strong incentive to do so. Given the insignificant coefficient of *Winmargin*, this even applies to cases where past elections have been very close, which in our view signal an increased risk of losing.

Turning to Models 5 and 6, the results suggest that PBCs indeed occur in political environments with limited constraints and meaningful competition, conditional on competitiveness. The results are weaker for *Government spending* with the *Election* and *Election*Winmargin* approaching but failing to achieve conventional levels of statistical significance (p=0.123 and p=148 respectively). That said, the overall pattern of a countervailing effect of competitiveness conditioning the effect of elections seems to be very similar. In Model 5, the election dummy is not significant, which means that there is no general pattern of PBCs regardless of competitiveness. Only if one takes into consideration the closeness of past elections, election years seem to be associated with significant spikes in spending and higher deficits. Consistent with

our argument, *Election* and *Winmargin* have countervailing effects as shown by the opposite sign of the coefficients. When competitiveness is at its maximum, incumbents reduce their budget balance by 1.2 percentage points on average. Expressed in spending per capita, this amounts to 19 $US of additional government outlays. As past win-margins increase, however, the budget balance improves and the PBCs become weaker. At win-margins of 10 percent, for example, PBCs are reduced by about 25 percent, measured in terms of budget deficit, and 23 percent in terms of spending.

Table 1: PBCs in Budget Balance across Different Levels of Competition and Constraints

	(1) *Parcomp<3*	(2) *Parcomp<3*	(3) *Xconst>5*	(4) *Xconst>5*	(5) *Parcomp>2* *Xconst<6*	(6) *Parcomp>2* *Xconst<6*
Budget balance $_{t-1}$	0.566***	0.566***	0.606***	0.605***	0.485***	0.482***
	(0.044)	(0.044)	(0.066)	(0.066)	(0.070)	(0.068)
Election	−0.006	−0.005	−0.001	0.0003	−0.004	−0.012***
	(0.004)	(0.006)	(0.001)	(0.001)	(0.003)	(0.004)
Election*Winmargin		−0.0001		−0.0001		0.0003**
		(0.0001)		(0.0001)		(0.0001)
GDP p.c. (logged)	0.020*	0.020*	0.006	0.006	0.027	0.026
	(0.012)	(0.011)	(0.011)	(0.011)	(0.019)	(0.019)
Growth	0.036	0.036	0.118***	0.119***	0.071**	0.070**
	(0.022)	(0.022)	(0.030)	(0.030)	(0.033)	(0.033)
Tax revenues/GDP	0.047	0.047	0.178***	0.176***	0.012	0.019
	(0.067)	(0.067)	(0.040)	(0.039)	(0.121)	(0.119)
Rents p.c. (logged)	0.001	0.001	0.001	0.001	−0.002	−0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Aid p.c. (logged)	−0.011***	−0.011***	−0.0002	−0.00004	−0.009	−0.009
	(0.004)	(0.004)	(0.001)	(0.001)	(0.006)	(0.006)
Debt service	−0.0003	−0.0003	0.001**	0.001**	0.001**	0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.0003)	(0.0003)
IMF	0.003	0.003	0.001	0.002	−0.003	−0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.006)	(0.006)
Tenure	0.0001	0.0001	0.0002	0.0002	−0.001**	−0.001***
	(0.0004)	(0.0004)	(0.0003)	(0.0003)	(0.001)	(0.001)
Observations	1,013	1,013	1,101	1,101	511	511

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: PBCs in Spending across Different Levels of Competition and Constraints

	(1) *Parcomp<3*	(2) *Parcomp<3*	(3) *Xconst>5*	(4) *Xconst>5*	(5) *Parcomp>2* *Xconst<6*	(6) *Parcomp>2* *Xconst<6*
Government spending $_{t-1}$	0.614***	0.614***	0.683***	0.683***	0.369***	0.365***
	(0.040)	(0.040)	(0.058)	(0.058)	(0.053)	(0.053)
Election	10.719	17.228	14.046	11.992	6.434	18.863
	(13.491)	(19.478)	(11.771)	(13.233)	(10.226)	(12.210)
Election*Winmargin		−0.235		0.251		−0.438
		(0.369)		(0.530)		(0.302)
GDP p.c. (logged)	0.348***	0.348***	0.365***	0.365***	0.492***	0.500***
	(0.068)	(0.068)	(0.057)	(0.057)	(0.068)	(0.069)
Growth	0.511***	0.511***	0.304***	0.305***	0.232**	0.231**
	(0.096)	(0.096)	(0.090)	(0.090)	(0.116)	(0.116)
Tax revenues/GDP	1.671***	1.671***	0.758***	0.758***	2.334***	2.317***
	(0.243)	(0.243)	(0.202)	(0.203)	(0.371)	(0.354)
Rents p.c. (logged)	−0.0004	−0.0004	0.004	0.004	0.006	0.006
	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)
Aid p.c. (logged)	0.057***	0.057***	0.003	0.004	0.040*	0.040*
	(0.013)	(0.013)	(0.004)	(0.004)	(0.024)	(0.024)
Debt service	−0.001	−0.001	−0.002	−0.002	−0.004*	−0.004*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
IMF	0.003	0.003	−0.004	−0.004	0.009	0.006
	(0.014)	(0.014)	(0.008)	(0.008)	(0.021)	(0.021)
Tenure	−0.0003	−0.0003	−0.0003	−0.0003	0.002	0.003
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Observations	1,017	1,017	1,100	1,100	512	512

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As mentioned, it has been suggested that PBCs are reversed when elections are uncompetitive (Block et al., 2003). In our model, this would imply that PBCs should disappear below a certain level of competitiveness. The best way to explore this eventuality is by graphical illustration. Figure 2 displays the budget balance for varying win-margins, estimated for countries in the hybrid middle between the thresholds.[35] The solid line represents the average effect; the two dotted lines the 95 percent confidence bounds.[36] The graph also includes a histogram to illustrate the distribution of win-margins in our subsample.[37] Clearly, most elections are only won by a narrow margin. In other words, most incumbents are relatively insecure about their re-election and it is indeed these incumbents who manipulate spending before elections. In view of Figure 2, elections are associated with significantly greater budget deficits up to win-margins of 12 percent, while the size of the budget deficit shrinks as competitiveness increases. Moreover, above past win-margins of 12 percent, the upper confidence bound crosses the zero line, suggesting that incumbents might actually reduce their budget deficits in election years. For past win-margins above 45 percent, also the average effect becomes positive, whilst the lower confidence bound remains below the zero line. We draw two main conclusions from this. First, in view of the lower confidence bound, increasing win-margins, at least, reduce the size of the budget cycle. This effect should be observable nearly across the whole

[35]The graphs follow the suggestions of Berry et al. (2012).

[36]The scale for the effect on the fiscal balance can be found on the left y-axis.

[37]The scale for the histogram can be found on the right y-axis.

subsample. Second, if past win-margins exceed a certain threshold, we cannot be certain that PBCs actually occur.

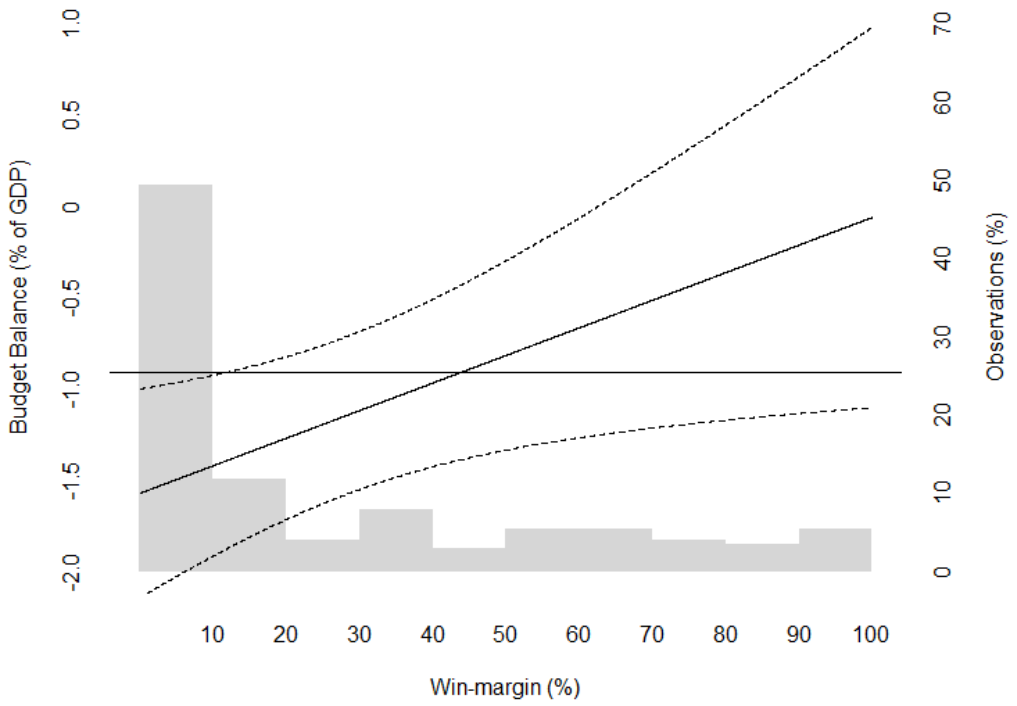

Figure 2: Marginal Effect of Competitiveness on PBCs

Robustness Tests

Varying Thresholds for Competition and Constraints

It is a common practice to test the robustness of empirical findings by varying the threshold of variables to see if the results still hold. This strategy hinges on the assumption that most thresholds in the social sciences are somewhat arbitrary. While we generally agree with the latter point, we propose a more refined strategy to test the sensitivity of our results to different thresholds of *Parcomp* and *Xconst*. In fact, as changing the thresholds re-arranges distinct polities into newly formed subsamples, we do not expect our results to remain exactly the same. Rather, we suggest that as we move the thresholds for the three subsamples in different directions, the *pattern of change* in the results will be informative for the theoretical argument we have made.

More specifically, we expect significance levels of *Election* and *Election*Winmargin* (a) to increase for the subsample of countries below the competition threshold, as we raise the threshold for competition (more countries with competitive political systems and the incentive to create PBCs are added to the subsample); (b) to increase for the subsample of countries above the constraints threshold, as we lower the threshold for constraints (more countries with fewer executive constraints and the ability to create PBCs are included); and (c) to decrease for the subsample in-between both thresholds when lowering the threshold for competition or raising the threshold of constraints (more countries with less competitive political systems and more executive constraints, and thus less incentive and ability to create PBCs, are

added to the subsample). Moreover, in the case of (a) and (b), we expect the sign of *Election*Winmargin* to turn, as we start to see the expected counter-effect as win-margins increase.

Figure 3 summarizes our propositions graphically. As this strategy involves running a considerable number of regressions on different subsamples, we refer the reader to the Online Appendix for a detailed presentation of the results. To adumbrate the results, we indeed begin to see signs of PBCs in the subsample of non-competitive polities as we move the competition threshold upward, and in the subsample of heavily constrained polities as we move the constraint threshold downward. Conversely, PBCs become weaker for the subsample in-between both thresholds, when we raise the threshold for constraints or lower it for competition.

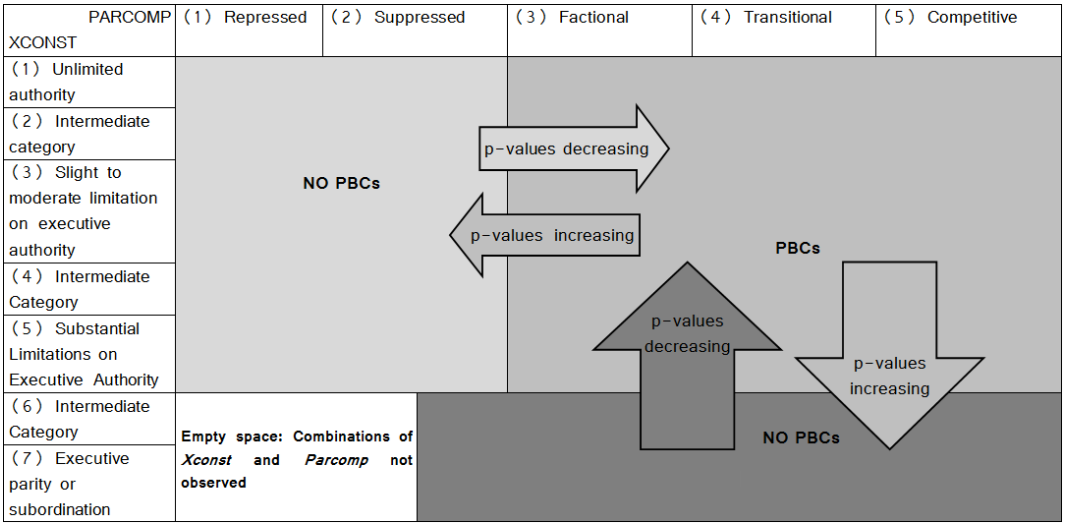

Figure 3: Expected Effect of Varying Thresholds of Competition and Constraints

Additional Robustness Tests

To ascertain the validity of our findings, we conduct a number of additional robustness tests, the results of which are detailed in the Online Appendix. In addition to raising and lowering the competition and executitve constraints thresholds as outlined above, we run triple interaction models between *Election*, *Winmargin*, and *Parcomp* and *Xconst* respectively. The results confirm our findings from the sub-sample strategy in that PBCs are absent below a minimum level of competition and become more pronounced as competition increases; likewise, PBCs become less pronounced as constraints on the executive increase and disappear above a maximum level of constraints. These triple interaction models also suggest that there are no non-linear effects for *Parcomp* in our sample. Nonetheless, we run an additionial robustness test in which we replicate our sub-sample strategy replacing *Parcomp* with an alternative indicator *Party bans*, taken from the V-Dem dataset (Coppedge et al., 2015). The substantive findings regarding competition remain unchanged.

Additional robustness tests also include rerunning our regressions with different model specifications. Using year or country fixed effects only, as well as running a pure random effects model does not substantively alter the results. In addition, we test the sensitivity of our findings to additional control variables, such as urbanization, trade, and the share of the dependent population. Data are taken from the World Bank (2010). If election dates are not fixed by law, incumbents have an incentive to call early elections if the economic cycle is propitious. We therefore add a variable for endogenous timing of elections, taken from Hyde (2011), to control for this opportunity effect. As the incumbent's ability to engage in PBCs might be

hampered if she heads a minority government, we also add a dummy indicator for minority governments to the regression.

Another robustness check consists of taking out legislative elections as the measurement of win-margins based on the proportion of seats rather than votes can be problematic, particularly in the case of majoritarian systems. Similarly, we rerun our main model using the win-margin of first-round presidential elections in case there were two rounds. We further consider a continuous measure of win-margin where we carry the past win-margin forward until the year of the election. While the non-interacted coefficient of *Winmargin* does not have a significant effect, the interacted part remains significant. We also rerun our model without founding elections to make sure that the results are not driven by our specific coding choice of *Winmargin* in these elections. And, finally, we rerun our model excluding elections in which the change of win-margin is greater than one standard deviation (25 percent) as this might signify changes in the quality of democracy. To all of the above modifications, our substantive findings remain robust.

PBCs and Regime Type

Given the empirical covariation between executive constraints and political competition along the spectrum of political regimes, our theoretical argument implies that PBCs should be found predominantly in the hybrid middle. Only in the "gray zone", regularized, competitive elections are combined with limited constraints on the power of the executive (Cassani, 2014). The challenge, however, is to find a good measure

of hybrid regimes. As Armony and Schamis (2005) have pointed out, using measures that rely on *ex post* classification based on electoral results – most commonly a 75 percent threshold won by the ruling party (Brownlee, 2009; Diamond, 2002) – to distinguish hegemonic authoritarian regimes from hybrids, whilst using *ex ante* criteria for democracies is inconsistent. Dichotomous measures of political regimes are unable to capture the atypical combination of competitive elections and few constraints prevalent in hybrid regimes. Howard and Roessler (2006) and Blaydes and Kayser (2011) use the Polity indicator to identify hybrid regimes, yet in our case this measure would be too closely correlated with our indicators of constraints and competition, given that *Xconst* and *Parcomp* are subcomponents of the Polity score. We therefore use the typology of Wahman et al. (2013) to distinguish between different regimes types.[38]

Concretely, we take their multiparty authoritarian category as a proxy for hybrid regimes.[39] As Wahman et al. (2013, 27) point out, "in these regimes, at least a minimal level of competition is allowed and some opposition candidates [...] are allowed to participate in national elections." We further use their democracy dummy to identify fully democratic regimes and code all remaining, non-multiparty regimes as autoc-

[38]Based on a combination of Freedom House and Polity, the measure might still be correlated with our indicators for constraints and competition. However, facing different suboptimal choices, their typology has the fewest drawbacks of all for the question at hand.

[39]This also resonates with Linde's (2009) suggestion to view hybrid regimes as subtypes of authoritarianism.

racies. We then estimate our base model in these three subsamples conditioning for competitiveness measured in win-margins. The results, displayed in Table 3, broadly support our argument. Neither in autocracies nor in democracies are there any signs of PBCs. The election dummy and its interaction with *Winmargin* are insignificant throughout. In column 1 and 2, the signs of both coefficients are even reversed, suggesting that elections reduce the deficit rather than increase it. By contrast, there are strong indications for PBCs in hybrid regimes. The election dummy is highly significant and the sign of the interaction term indicates the expected counter-effect of electoral competitiveness. However, the conditioning effect of competitiveness seems to be weaker in hybrid regimes. The interaction terms in columns 3 and 6 show either no (p=0.35) or only weak significance. Most probably, this divergence from previous findings has to do with the fact that the category of multiparty authoritarian regimes includes a number of relatively uncompetitive cases. With this caveat attached, the overall argument empirically holds: PBCs predominantly occur in the hybrid middle.

Table 3: PBCs across Different Regime Types

	(1) *Autocracies*	(2) *Democracies*	(3) *Hybrids*	(4) *Autocracies*	(5) *Democracies*	(6) *Hybrids*
Budget balance $_{t-1}$	0.594***	0.600***	0.494***			
	(0.045)	(0.062)	(0.044)			
Government spending $_{t-1}$				0.753***	0.931***	0.599***
				(0.122)	(0.010)	(0.071)
Election	0.004	0.0002	−0.011**	−2.035	14.802	44.518**
	(0.008)	(0.002)	(0.005)	(15.520)	(14.402)	(18.661)
Election*Winmargin	−0.0003*	−0.00004	0.0001	−0.796	0.252	−0.554*
	(0.0002)	(0.0001)	(0.0001)	(1.272)	(0.429)	(0.312)
GDP p.c. (logged)	−0.004	0.005	0.031**	0.464***	0.420***	0.404***
	(0.006)	(0.013)	(0.015)	(0.060)	(0.059)	(0.071)
Growth	0.058**	0.119***	0.025	0.410***	0.238*	0.442***
	(0.025)	(0.038)	(0.025)	(0.129)	(0.132)	(0.107)
Tax revenues/GDP	0.043	0.205***	−0.076	1.699***	1.099***	2.450***
	(0.067)	(0.046)	(0.069)	(0.283)	(0.179)	(0.369)
Rents p.c. (logged)	0.001	0.0002	−0.002	0.001	0.007*	0.004
	(0.001)	(0.001)	(0.002)	(0.004)	(0.003)	(0.006)
Aid p.c. (logged)	−0.012***	−0.0003	−0.004	0.067***	0.006	0.016
	(0.005)	(0.001)	(0.003)	(0.019)	(0.004)	(0.014)
Debt service	−0.0005	0.001***	0.0005	−0.0003	−0.003	−0.002
	(0.001)	(0.001)	(0.0003)	(0.002)	(0.002)	(0.002)
IMF	0.003	0.002	0.006	0.008	−0.012	−0.016
	(0.003)	(0.003)	(0.004)	(0.015)	(0.010)	(0.018)
Tenure	−0.0001	−0.0004	0.00001	0.001	−0.0001	−0.002
	(0.0003)	(0.001)	(0.0003)	(0.002)	(0.001)	(0.002)
Observations	868	1,062	619	872	1,063	619

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Conclusion

In this article, we have explored the effect of democratization on PBCs. Understood as a multi-dimensional process, democratization involves increasing executive constraints and the intensification of political competition, which affect PBCs differently. Moreover, we have shown that while unconstrained executive powers and intense political competition are necessary conditions, it is electoral competitiveness that triggers PBCs. If incumbents do not fear losing, they do not create PBCs. Finally, we have demonstrated that because of the empirical covariation between executive constraints and political competition, PBCs occur primarily in hybrid regimes. In full autocracies, there is no incentive to create PBCs; in advanced democracies, incumbents do not have the ability.

The article has contributed to the literature on PBCs in three ways. First, it has demonstrated that the observed effect of democratization processes on PBCs is non-linear: positive at the autocratic end of the regime spectrum, where PBCs are stimulated by rising levels of political competition and electoral uncertainty; negative at the democratic end, where they are contained by the growing numbers of executive constraints. This multi-dimensional approach to democratization critically enhances our understanding of the political economy dimension of democratic transitions. By the same token, the article has added to the growing body of political economy research that explores the effects of democratization on fiscal outcomes (Aidt and Eterovic, 2011; Eterovic and Eterovic, 2012). Second, the article has pointed to a triggering effect of electoral competitiveness. This finding contributes to the debate on context-conditional PBCs (Alt and Rose, 2009) by highlighting the importance

of incentives in addition to abilities. Third, as the most comprehensive study of PBCs to date – using novel data and spanning the full spectrum of political regimes – the article has contributed to extending the debate on PBCs to a broader range of regimes, yielding insights for OECD and non-OECD countries alike.

As always, a number of questions remain unanswered. For example, it would be interesting to explore the effect of advancements in other democratic dimensions, most notably public participation (Dahl, 1971). How does voter turnout affect PBCs, and how are the cycles affected by different levels of civic engagement? If combined with our study, such work could provide a complete picture of the aggregate effect of democratization on PBCs. Moreover, a better understanding of how incumbents gauge their electoral prospects would give researchers a better handle on variations in PBCs. We have emphasized the importance of retrospective indicators of electoral prospects, but how incumbents view the odds of electoral defeat or victory may be highly dependent upon context, similar to PBCs themselves.

Online Appendix

Summary Statistics

Table 4: Descriptive Statistics

Variable	Variation	N	Mean	St. Dev.	Min	Max
Budget balance	overall	4,658	−0.04	0.07	−0.64	0.28
	between	138		0.05	−0.33	0.07
	within	35.02		0.05	−0.55	0.28
Government spending	overall	4,445	2,791.60	4,442.69	13.02	23,016.32
	between	134		4,087.35	80.50	14,224.3
	within	33.17		1,600.40	−7,198.84	12,233.74
Election	overall	6,532	0.14	0.34	0	1
	between	142		0.084	0	0.33
	within	46		0.33	−0.20	1.12
Winmargin	overall	6,543	3.68	16.37	0.00	100.00
	between	142		3.93	0	17.40
	within	46.08		15.87	−13.72	101.41
GDP p.c. (logged)	overall	5,823	8.18	1.29	4.76	10.84
	between	136		1.22	5.75	10.30
	within	42.82		0.36	6.48	10.73
Growth	overall	5,710	0.02	0.07	−0.65	1.22
	between	136		0.02	−0.02	0.11
	within	41.99		0.07	−0.07	1.13
Tax revenues/GDP	overall	3,846	0.21	0.11	0.01	0.57
	between	124		0.10	0.03	0.46
	within	31.016		0.04	0.02	0.56
Rents p.c. (logged)	overall	5,694	2.42	3.99	−4.61	9.92
	between	140		3.67	−4.61	7.61
	within	40.67		1.57	−7.16	12.03
Aid p.c. (logged)	overall	6,399	2.45	2.01	−6.03	6.92
	between	138		1.65	0	5.72
	within	46.37		1.02	−7.25	5.97
Debt service	overall	4,474	3.68	5.12	0.00	138.89
	between	126		3.22	0.07	15.43
	within	35.51		4.03	−11.70	131.92
IMF	overall	7,153	0.18	0.38	0	1
	between	142		0.16	0	0.61
	within	50.37		0.35	−0.43	1.16
Tenure	overall	5,433	7.17	7.38	1	46
	between	141		4.19	1.43	23.78
	within	38.53		5.99	−15.61	32.99

Urbanization	overall	7,008	45.66	23.11	2.00	100.00
	between	138		21.81	5.53	100
	within	50.78		7.74	5.59	76.70
Dependency ratio	overall	7,008	41.49	6.51	26.41	53.00
	between	138		5.66	32.22	50.402
	within	50.78		3.27	25.88	54.41
Endogenous elections	overall	7,178	0.06	0.23	0	1
	between	142		0.05	0	0.29
	within	50.55		0.22	−0.24	1.04
Minority government	overall	4,873	0.02	0.14	0	1
	between	142		0.13	0	0.76
	within	34.32		0.11	−0.74	1.00
Trade	overall	5,825	67.19	44.14	1.96	453.44
	between	136		39.45	13.63	338.86
	within	42.83		20.47	−37.57	220.88
Parcomp	overall	5,969	2.89	1.57	0	5
	between	141		1.28	0	5
	within	42.33		0.90	−0.13	5.44
Xconst	overall	5,969	4.28	2.33	1	7
	between	141		1.87	1	7
	within	42.33		1.41	−0.96	9.00
Party bans	overall	11,776	2.65	1.55	0	4
	between	164		1.15	0	4
	within	85.22		1.14	−1.25	6.47

Table 5: List of Included Countries

Country	Polity (min)	Polity (max)
Afghanistan	-10	-7
Albania	-9	9
Algeria	-9	2
Argentina	-9	8
Armenia	-6	7
Australia	10	10
Austria	10	10
Azerbaijan	-7	1
Bangladesh	-7	8
Belarus	-7	7
Belgium	8	10
Benin	-7	7
Bolivia	-7	9
Botswana	6	8
Brazil	-9	8
Bulgaria	-7	9
Burkina Faso	-7	5
Burundi	-7	6
Cambodia	-9	2
Cameroon	-8	-4
Canada	10	10
Central African Republic	-7	5
Chad	-9	-2
Colombia	7	9
Comoros	-7	9
Congo	-8	5
Costa Rica	10	10
Cote d'Ivoire	-9	4
Croatia	-5	9
Cuba	-7	-7
Cyprus	7	10
Czech Republic	8	10
Czechoslovakia	-7	8
Democratic Republic of Congo	-9	5
Denmark	10	10
Djibouti	-8	2
Dominican Republic	-9	8
Ecuador	-5	9
Egypt	-7	-3
El Salvador	-6	8
Equatorial Guinea	-7	2
Estonia	6	9
Ethiopia	-9	-7
Fiji	-4	9
Finland	10	10
France	5	9
Gabon	-9	3
Gambia	-7	8
Georgia	4	7
Germany	10	10
Ghana	-9	8

Greece	-7	10
Guatemala	-7	8
Guinea	-9	5
Guinea-Bissau	-8	6
Haiti	-10	7
Honduras	-1	7
Hungary	-7	10
India	7	9
Indonesia	-7	8
Iran	-10	3
Ireland	10	10
Israel	9	10
Italy	10	10
Jamaica	9	10
Japan	10	10
Kazakhstan	-6	-3
Kenya	-7	8
Korea	-9	8
Kyrgyz Republic	-3	7
Laos	-7	-1
Latvia	8	8
Lebanon	2	7
Lesotho	-9	9
Liberia	-7	6
Lithuania	10	10
Macedonia (FYROM)	6	9
Madagascar	-6	9
Malawi	-9	6
Malaysia	1	10
Mali	-7	7
Mauritania	-7	4
Mauritius	9	10
Namibia	6	6
Moldova	5	8
Mongolia	-7	10
Mozambique	-8	5
Myanmar (Burma)	-8	8
Nepal	-10	6
Netherlands	10	10
New Zealand	10	10
Nicaragua	-8	9
Niger	-7	8
Nigeria	-7	8
North Korea	-9	-8
Norway	10	10
Pakistan	-7	8
Panama	-8	9
Papua New Guinea	4	4
Paraguay	-9	8
Peru	-7	9
Philippines	-9	8
Poland	-8	10
Portugal	-9	10
Romania	-8	9
Russia	3	6

Rwanda	-7	-3
Senegal	-7	8
Serbia (Yugoslavia)	-7	-5
Sierra Leone	-7	7
Singapore	-2	7
Slovak Republic	7	10
Slovenia	10	10
Somalia	-7	7
South Africa	4	9
South Yemen	-8	-5
Spain	-7	10
Sri Lanka	4	8
Sudan	-7	7
Sweden	10	10
Switzerland	10	10
Syria	-9	-2
Taiwan	-8	10
Tajikistan	-6	-1
Tanzania	-6	-1
Thailand	-7	9
Togo	-7	-2
Trinidad and Tobago	8	10
Tunisia	-9	-3
Turkey	-5	9
Turkmenistan	-9	-8
Uganda	-7	7
Ukraine	5	7
United Kingdom	10	10
United States	10	10
Uruguay	-8	10
Uzbekistan	-9	-9
Venezuela	-3	9
Yemen	-6	0
Zambia	-9	7
Zimbabwe	-6	4

Varying Thresholds for Competition and Constraints

To test the sensitivity of our measures of competition and constraints to varying thresholds, we run four sets of additional regressions. In all four sets, shown in Tables 6 to 9, the first column uses the original thresholds discussed in the article. In the first set, the minimum threshold for competition is raised by one unit from a *Parcomp* level of 2 to 4 and we explore the effect of this change on the subsample of countries below this threshold, that is, countries that do not meet the competition threshold and in which PBCs did not occur. Moving the threshold upward means that the sample of countries falling below the threshold increases in size and includes an increasing number of more competitive polities with every shift of the threshold. Given that, the expectation is that the coefficients of *Election* and *Election*Winmargin* will gradually approach conventional levels of statistical significance. Moreover, the sign of *Election*Winmargin* should turn and we should start to see a positive counter-effect as win-margins increase. This is exactly what we see in Table 6.

In the second set of regressions, the maximum threshold of constraints is lowered from *Xconst* levels of 6 to 3 and we examine the effect of this change on the subsample of countries above threshold, that is, countries in which PBCs did not occur because constraints on the executive were too high. As before, the sample size is increased with every unit change in *Xconst*, adding polities with increasingly fewer constraints on the executive to the subsample. The effect should be similar to the first set, i.e., p-values of coefficients should decrease and there should be a sign change in the coefficient of *Election*Winmargin*, indicating that higher win-margins and thus lower competitiveness decrease the incumbent's incentives to manipulate the budget. Table

7 presents evidence for such an effect. The p-values on the *Election* coefficient fall from 0.81 to 0.45; if we take out OECD countries, the p-value in Model 4 even drops to 0.16.[40] The effect on the p-values of the interaction term are less linear, although it is important to realize that increasing the minimal threshold of competition adds more countries with higher constraint levels, whereas lowering the maximum threshold for constraints adds increasingly uncompetitive countries. This explains why neither *Election* nor *Election*Winmargin* reach conventional levels of significance in Tables 6 and 7.

In the third set of regressions, we lower the minimum threshold for competition from a *Parcomp* level of 3 to 1 while holding the *Xconst* threshold constant at 6, and test the effect of this change on the subsample of countries in between both thresholds, that is, countries in which PBCs did occur. Doing so, we expand the subsample by adding increasingly uncompetitive polities, which should increase the p-values of our variables of interest and drive *Election* and/or *Election*Winmargin* out of areas of statistical significance. Considering the results in Table 8, this is exactly what happens.

In the fourth set of regression, the maximum threshold for constraints is raised from *Xconst* levels of 5 to 7, holding the minimum threshold of competition constant. Again, we are interested in the effect of this shift on the subsample in-between both thresholds, expecting that such a change considerably reduces the significance levels of our variables of interest as more countries with higher levels of constraints are added to the subsample. The results displayed in Table 9 clearly confirm our

[40]Results are available upon request.

theoretical expectation.

Table 6: Raising the Minimum Threshold for Competition

	(1) *Parcomp<3*	(2) *Parcomp<4*	(3) *Parcomp<5*
Budget balance $_{t-1}$	0.566***	0.598***	0.607***
	(0.000)	(0.000)	(0.000)
Election	−0.005	−0.004	−0.005
	(0.400)	(0.334)	(0.123)
Election*Winmargin	−0.0001	−0.00002	0.00004
	(0.699)	(0.837)	(0.593)
GDP p.c. (logged)	0.020*	0.008	0.004
	(0.087)	(0.297)	(0.514)
Growth	0.036	0.045**	0.057***
	(0.102)	(0.019)	(0.002)
Tax revenues/GDP	0.047	0.038	0.044
	(0.482)	(0.457)	(0.363)
Rents p.c. (logged)	0.001	0.0005	0.0003
	(0.174)	(0.493)	(0.661)
Aid p.c. (logged)	−0.011***	−0.008***	−0.008***
	(0.008)	(0.010)	(0.004)
Debt service	−0.0003	0.00005	0.0002
	(0.662)	(0.850)	(0.406)
IMF	0.003	0.003	0.002
	(0.314)	(0.234)	(0.349)
Tenure	0.0001	0.00001	−0.0001
	(0.744)	(0.966)	(0.801)
Observations	1,013	1,449	1,851

Note: Autoregressive OLS model with country and year fixed effects. P-values in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Lowering the Maximum Threshold for Constraints

	(1) *Xconst>5*	(2) *Xconst>4*	(3) *Xconst>3*	(4) *Xconst>2*
Budget balance $_{t-1}$	0.605***	0.577***	0.571***	0.589***
	(0.000)	(0.000)	(0.000)	(0.000)
Election	0.0003	−0.001	−0.001	−0.001
	(0.807)	(0.658)	(0.570)	(0.448)
Election*Winmargin	−0.0001	−0.00001	−0.00004	−0.00002
	(0.154)	(0.892)	(0.625)	(0.824)
GDP p.c. (logged)	0.006	0.001	0.003	0.005
	(0.613)	(0.880)	(0.678)	(0.497)
Growth	0.119***	0.089***	0.091***	0.103***
	(0.0001)	(0.0003)	(0.0002)	(0.0004)
Tax revenues/GDP	0.176***	0.170***	0.160***	0.099**
	(0.00001)	(0.0005)	(0.001)	(0.044)
Rents p.c. (logged)	0.001	0.001	0.001	0.001
	(0.507)	(0.402)	(0.535)	(0.543)
Aid p.c. (logged)	−0.00004	−0.002	−0.001	−0.003*
	(0.966)	(0.154)	(0.178)	(0.069)
Debt service	0.001**	0.001**	0.001**	0.001***
	(0.026)	(0.013)	(0.012)	(0.009)
IMF	0.002	−0.003	−0.003	0.003
	(0.580)	(0.397)	(0.374)	(0.221)
Tenure	0.0002	−0.0003	−0.0003	−0.0002
	(0.533)	(0.545)	(0.478)	(0.497)
Observations	1,101	1,370	1,442	1,888

Note: Autoregressive OLS model with country and year fixed effects. P-values in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Lowering the Minimum Threshold for Competition

	(1) *Parcomp>2 Xconst<6*	(2) *Parcomp>1 Xconst<6*	(3) *Parcomp>0 Xconst<6*
Budget balance $_{t-1}$	0.482***	0.527***	0.606***
	(0.000)	(0.000)	(0.000)
Election	−0.012***	−0.012***	−0.010**
	(0.006)	(0.005)	(0.026)
Election*Winmargin	0.0003**	0.0002	0.0001
	(0.016)	(0.104)	(0.204)
GDP p.c. (logged)	0.026	0.019*	0.012
	(0.155)	(0.053)	(0.160)
Growth	0.070**	0.053**	0.051**
	(0.035)	(0.015)	(0.015)
Tax revenues/GDP	0.019	−0.008	0.035
	(0.876)	(0.932)	(0.502)
Rents p.c. (logged)	−0.002	−0.001	−0.0001
	(0.264)	(0.646)	(0.899)
Aid p.c. (logged)	−0.009	−0.010**	−0.009***
	(0.108)	(0.017)	(0.007)
Debt service	0.001**	0.0004	0.0001
	(0.026)	(0.238)	(0.642)
IMF	−0.002	0.0004	0.002
	(0.738)	(0.916)	(0.325)
Tenure	−0.001***	−0.0003	−0.0001
	(0.010)	(0.389)	(0.761)
Observations	511	909	1,504

Note: Autoregressive OLS model with country and year fixed effects. P-values in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Raising the Maximum Threshold for Constraints

	(1) *Xconst<6* *Parcomp>2*	(2) *Xconst<7* *Parcomp>2*	(3) *Xconst<8* *Parcomp>2*
Budget balance $_{t-1}$	0.482***	0.476***	0.565***
	(0.000)	(0.000)	(0.000)
Election	−0.012***	−0.007	−0.002
	(0.006)	(0.115)	(0.191)
Election*Winmargin	0.0003**	0.0002*	0.00001
	(0.016)	(0.074)	(0.879)
GDP p.c. (logged)	0.026	0.010	0.0002
	(0.155)	(0.454)	(0.982)
Growth	0.070**	0.091***	0.099***
	(0.035)	(0.005)	(0.0003)
Tax revenues/GDP	0.019	0.112	0.114**
	(0.876)	(0.340)	(0.029)
Rents p.c. (logged)	−0.002	−0.001	0.0001
	(0.264)	(0.466)	(0.906)
Aid p.c. (logged)	−0.009	−0.007**	−0.001
	(0.108)	(0.025)	(0.215)
Debt service	0.001**	0.001**	0.001***
	(0.026)	(0.031)	(0.004)
IMF	−0.002	−0.0001	0.001
	(0.738)	(0.989)	(0.792)
Tenure	−0.001***	−0.001**	−0.0003
	(0.010)	(0.022)	(0.310)
Observations	511	686	1,612

Note: Autoregressive OLS model with country and year fixed effects. P-values in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Triple Interaction Terms as Alternative to Sub-Samples

As an alternative to our sub-sample strategy, we also provide two models with a triple interaction between *Election*, *Winmargin*, and *Parcomp*/*Xconst*. When including the triple interaction with *Parcomp*, we only include countries with $Xconst < 6$; conversely, when running the model with *Xconst*, we only include countries with $Parcomp > 2$. Granted, this still leaves some sample restriction in place, but the alternative – a four-way interaction term – is barely comprehensible and hardly manageable with the limited number of observations at hand. That said, the three-way interaction at least allows one of the two variables to range freely across all its levels, alleviating the concern that our findings are driven by our "slicing" of the data into sub-samples.

The results of this exercise are shown in Figures 4 and 5 below As three-way interactions are best interpreted graphically, we refrain from showing the coefficients tables, which are available upon request. The graphs follow the suggestions by Brambor et al. (2006) for three-way interaction terms. This means that significant interactions are shown as solid lines, whereas insignificant interactions are shown as dotted lines. Please also note that in the case of *Xconst*, we only show levels 1, 2, 5, and 7 to keep the graph manageable.

Substantively, we find both graphs to be very much in line with the main argument of this paper. Regarding Figure 4, the graph shows no significant effect of win-margin on the budget balance in political systems with no or highly restrictive political competition (*Parcomp* levels 1 and 2). Beyond that threshold, the marginal effect of win-margin grows in size as competition increases from levels 3 to 5, and it does

so rather linearly, suggesting no particular non-linear effect for $Parcomp$=3 in our sample. As for Figure 5, we find no significant effect of win-margin at constraint levels of $Xconst$=7 (and 6; not shown). Below that threshold, the marginal effect increases as the constraints on executive power decrease. Taken together, these substantively identical findings suggest that our main findings are not an artefact of our sub-sample strategy.

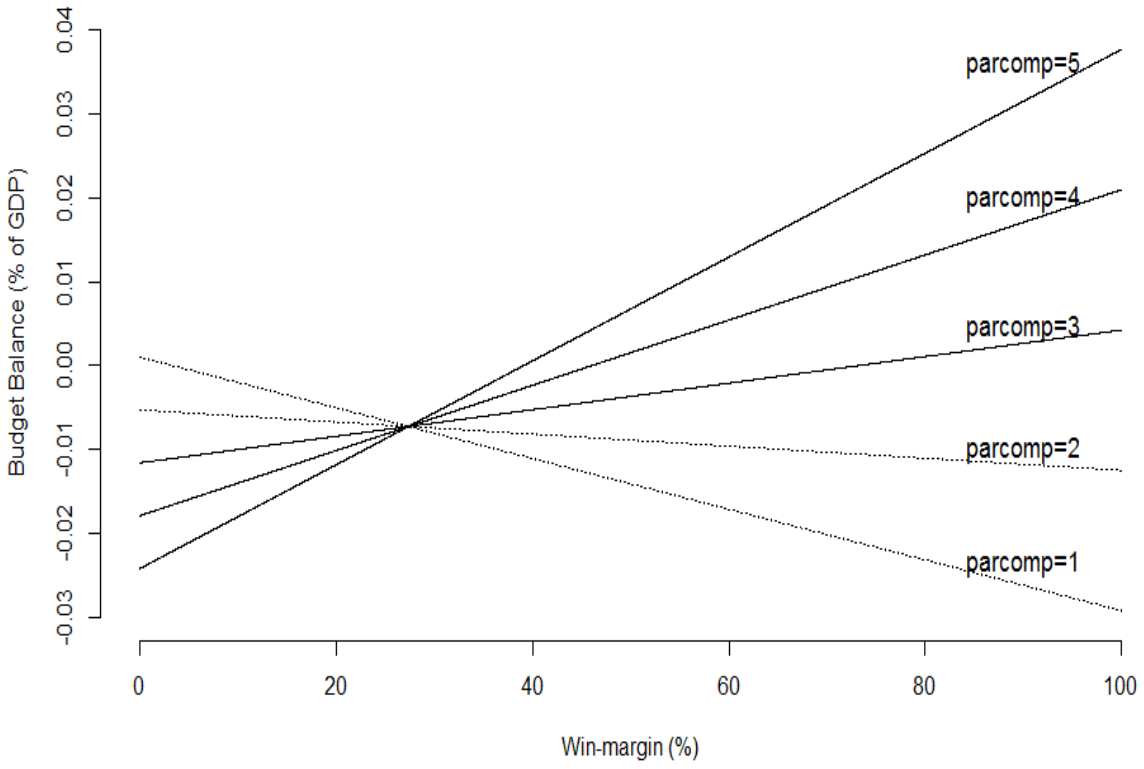

Figure 4: Marginal Effect of Win-margin on Budget Balance, Conditional upon *Election* and *Parcomp*
Note: Solid lines represent significant marginal effects; dotted lines insignificant ones.

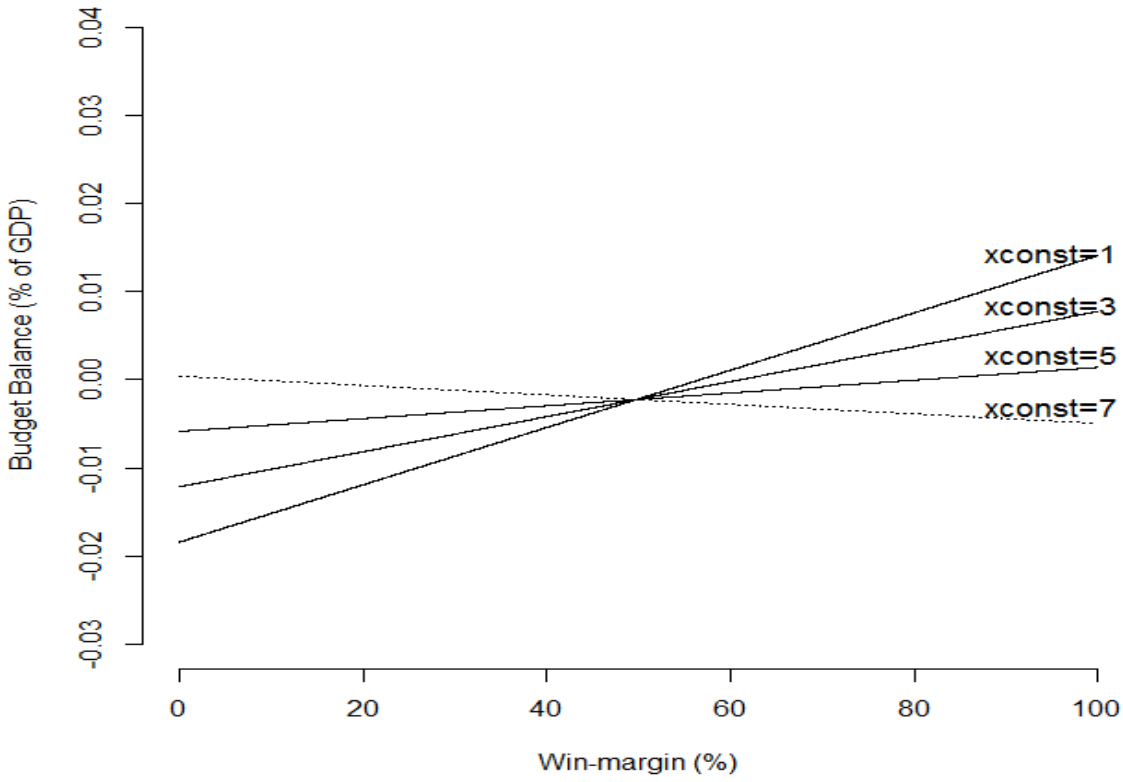

Figure 5: Marginal Effect of Win-margin on Budget Balance, Conditional upon *Election* and *Xconst*

Note: Solid lines represent significant marginal effects; dotted lines insignificant ones.

Different Model Specifications

To test the robustness of our findings to different model specification, we carry out three kinds of modifications of our base model. First, we drop year fixed effects; second, we run a model without country fixed effects; third, we test a random effects model. The results of this exercise are shown in Table 10 below. None of the changes has any significant effect on our main findings.

Table 10: Different Model Specifications

	(1) *Country FEs only*	(2) *Year FEs only*	(3) *Random effects*
Budget balance $_{t-1}$	0.502***	0.726***	0.811***
	(0.054)	(0.072)	(0.026)
Election	−0.011**	−0.016***	−0.013**
	(0.005)	(0.006)	(0.006)
Election*Winmargin	0.0003**	0.0003**	0.0002*
	(0.0001)	(0.0001)	(0.0001)
GDP p.c. (logged)	0.023	0.004	0.006***
	(0.019)	(0.003)	(0.002)
Growth	0.073**	0.079**	0.083***
	(0.037)	(0.033)	(0.024)
Tax revenues/GDP	0.050	−0.023	−0.008
	(0.142)	(0.038)	(0.024)
Rents p.c. (logged)	−0.002	0.001	0.0003
	(0.001)	(0.001)	(0.0003)
Aid p.c. (logged)	−0.010**	−0.002	0.001
	(0.005)	(0.003)	(0.002)
Debt service	0.001**	−0.0002	−0.0003
	(0.0004)	(0.0003)	(0.0003)
IMF	−0.0002	0.0002	0.003
	(0.005)	(0.005)	(0.003)
Tenure	−0.001*	−0.0002	−0.00001
	(0.001)	(0.0003)	(0.0002)
Observations	511	511	458

Note: Autoregressive OLS models. Robust standard errors in parentheses.
Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Additional Control Variables

Following common practice, we add a number of additional control variables to see whether our results withstand these modifications. More specifically, we add urbanization, the dependency ratio, a dummy for endogenous elections and minority governments, as well as trade to the base model. Please note that the coefficients of the control variables in our base model are not reproduced due to a lack of space. In the light of the results shown in Table 11, the main findings appear very robust to these changes.

Table 11: Additional Controls Variables

	(1)	(2)	(3)	(4)	(5)
Budget balance $_{t-1}$	0.480***	0.480***	0.465***	0.464***	0.451***
	(0.060)	(0.060)	(0.056)	(0.055)	(0.057)
Election	−0.012***	−0.012***	−0.012**	−0.013**	−0.013**
	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)
Election*Winmargin	0.0003**	0.0003**	0.0003**	0.0003**	0.0003**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Urbanization	0.002	0.002	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Dependency ratio		0.00001	−0.0002	−0.0003	−0.001
		(0.001)	(0.001)	(0.001)	(0.001)
Endogenous elections			−0.004	−0.006	−0.005
			(0.008)	(0.008)	(0.008)
Minority government				0.005	0.003
				(0.011)	(0.011)
Trade					−0.0002
					(0.0002)
Observations	511	511	487	481	481

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant, FE coefficients, and standard controls omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Presidential Elections Only

Since our measure of competitiveness, that is, past win-margins, might be inconsistent across legislative elections due to different voting systems (FPTP vs. proportional), we rerun our base model with presidential elections only. All substantive findings remain unchanged (see Table 12).

Table 12: Presidential Elections Only

Budget balance $_{t-1}$	0.483***
	(0.069)
Election	−0.010***
	(0.004)
Election*Winmargin	0.0002*
	(0.0001)
GDP p.c. (logged)	0.027
	(0.019)
Growth	0.071**
	(0.034)
Tax revenues/GDP	0.018
	(0.119)
Rents p.c. (logged)	−0.002
	(0.001)
Aid p.c. (logged)	−0.009
	(0.006)
Debt service	0.001**
	(0.0003)
IMF	−0.002
	(0.006)
Tenure	−0.001**
	(0.001)
Observations	511

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continuous Measure of Winmargin

We also test a continuous measure of win-margin where we carry the past win-margin forward until the year of the next election. Theoretically, electoral competitiveness should have no effect on budget deficits outside the context of impending elections. We therefore expect the non-interacted base term of *Winmargin* to be statistically insignificant, while the interacted part should remain significant. The results shown in Table 13 below confirm our expectations.

Table 13: Table 12: Continuous Measure of Winmargin

Budget balance $_{t-1}$	0.484***
	(0.068)
Election	−0.012***
	(0.004)
Winmargin	0.0001
	(0.0001)
Election*Winmargin	0.0003**
	(0.0001)
GDP p.c. (logged)	0.024
	(0.018)
Growth	0.071**
	(0.033)
Tax revenues/GDP	0.024
	(0.117)
Rents p.c. (logged)	−0.001
	(0.001)
Aid p.c. (logged)	−0.009*
	(0.005)
Debt service	0.001**
	(0.0003)
IMF	−0.002
	(0.006)
Tenure	−0.001***
	(0.001)
Observations	510

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Excluding Founding Elections

Recall that we coded *Winmargin*=0 in the case of founding elections and elections after an autocractic interlude. This was motivated by the assumption that in these elections incumbents have very little information to gauge their re-election prospect and are thus particularly insecure. However, we acknowledge that this is consequential choice and we therefore rerun our regression without these founding elections. In view of the results shown in Table 14, it is safe to say that our findings are not driven by our coding choice.

Table 14: Model without Founding Elections

Budget balance $_{t-1}$	0.473***
	(0.062)
Election	−0.008**
	(0.003)
Election*Winmargin	0.0002*
	(0.0001)
GDP p.c. (logged)	0.013
	(0.016)
Growth	0.063**
	(0.030)
Tax revenues/GDP	0.150
	(0.104)
Rents p.c. (logged)	−0.0005
	(0.001)
Aid p.c. (logged)	−0.009*
	(0.005)
Debt service	0.001**
	(0.0002)
IMF	−0.004
	(0.005)
Tenure	−0.001**
	(0.0004)
Observations	497

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

First-round Win-margins for Presidential Elections

As an additional robustness test, we use the the first-round results of presidential elections instead of the second round whenever elections comprised two rounds. Whenever the later winner was not the leading candidate and the win-margin would thus be negative, we set code it as 0. Results are available in Table 15 and are robust to this alternative coding of presidential elections.

Table 15: Model with First-round Presidential Elections Win-margin

Budget balance $_{t-1}$	0.482^{***}
	(0.068)
Election	-0.012^{***}
	(0.004)
Election*Winmargin	0.0003^{**}
	(0.0001)
GDP p.c. (logged)	0.027
	(0.019)
Growth	0.070^{**}
	(0.033)
Tax revenues/GDP	0.018
	(0.119)
Rents p.c. (logged)	-0.001
	(0.001)
Aid p.c. (logged)	-0.009
	(0.006)
Debt service	0.001^{**}
	(0.0003)
IMF	-0.002
	(0.006)
Tenure	-0.001^{***}
	(0.001)
Observations	511

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Alternative Indicator for Parcomp

Although we found no evidence for non-linear effects of *Parcomp* in a previous robustness tests, we acknowledge that the coding of *Parcomp*=3 as "factional party competition" is qualitatively different from the other levels of the variable. We therefore replicate our model using *Party bans* as an alternative indicator for political competition. Taken from Coppedge et al. (2015), the variable measures the extent to which political parties are banned and, by extension, political competition is restricted. Using this variable, we rerun our model excluding countries in which opposition parties are completely, frequently, or sometimes banned (*Party bans* <4). The results are shown in Table 16 are substantively very similar to our standard estimates using *Parcomp*.

Table 16: Alternative Indicator for Parcomp: Party Bans

	(1) *Party bans<4*	(2) *Party bans<4*	(3) *Xconst>5*	(4) *Xconst>5*	(5) *Party bans>3* *Xconst<6*	(6) *Party bans>3* *Xconst<6*
Budget balance $_{t-1}$	0.587***	0.587***	0.606***	0.605***	0.499***	0.499***
	(0.042)	(0.042)	(0.066)	(0.066)	(0.077)	(0.077)
Election	−0.006	−0.004	−0.001	0.0003	−0.004	−0.010**
	(0.004)	(0.007)	(0.001)	(0.001)	(0.003)	(0.004)
Election*Winmargin		−0.0001		−0.0001		0.0002**
		(0.0001)		(0.0001)		(0.0001)
GDP p.c. (logged)	0.007	0.008	0.006	0.006	0.018	0.018
	(0.009)	(0.009)	(0.011)	(0.011)	(0.016)	(0.016)
Growth	0.041**	0.041**	0.118***	0.119***	0.065**	0.064**
	(0.021)	(0.021)	(0.030)	(0.030)	(0.027)	(0.027)
Tax revenues/GDP	0.026	0.025	0.178***	0.176***	0.063	0.065
	(0.066)	(0.066)	(0.040)	(0.039)	(0.107)	(0.106)
Rents p.c. (logged)	0.001	0.001	0.001	0.001	0.0003	0.0002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Aid p.c. (logged)	−0.010***	−0.010***	−0.0002	−0.00004	−0.008**	−0.008**
	(0.004)	(0.004)	(0.001)	(0.001)	(0.004)	(0.004)
Debt service	−0.0002	−0.0002	0.001**	0.001**	0.0003	0.0003
	(0.001)	(0.001)	(0.001)	(0.001)	(0.0003)	(0.0003)
IMF	0.002	0.002	0.001	0.002	0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.006)	(0.006)
Tenure	−0.0001	−0.0001	0.0002	0.0002	−0.001*	−0.001*
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0004)	(0.0004)
Observations	1,026	1,026	1,101	1,101	553	553

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Win-margin Volatility

Given that the nature of political competition and, by extension, the quality of democracy can change over time, past win-margins might not always be a good indicator of competitiveness. Such reversals would entail distorting fluctuations of win-margins with narrow, competitive margins being followed by large margins as a result of less competitive elections. We respond to this challenge in two ways: first, descriptively Figures 6 and 7 suggest that there are no particularly pronounced fluctuations in the win-margins. Figure 7 shows that the vast majority of win-margins changes – that is, the difference between the previous election's win-margin and the current election's win-maring – are small, suggesting high levels of competitiveness. Moreover, when analysing the win-margin changes greater than one standard deviation (+/- 25 percent), we find that 50 percent of these changes occur in regimes with Polity scores of 5 and higher on a scale ranging from -10 to 10; 75 percent of these "big" changes occur in regimes with a Polity score of -2 or higher. Taken together, the descriptive pattern shows a relatively smooth trend of win-margins over time, and those cases in which big win-margin shift occur are mostly on the democratic side of the political spectrum.

Second, we further test the robustness of our findings to win-margin volatility by excluding elections with win-margin changes greater than one standard deviation from the regression. The results of is restricted model, detailed in Table 17, show a weaker, yet substantively similar pattern to our previous findings.

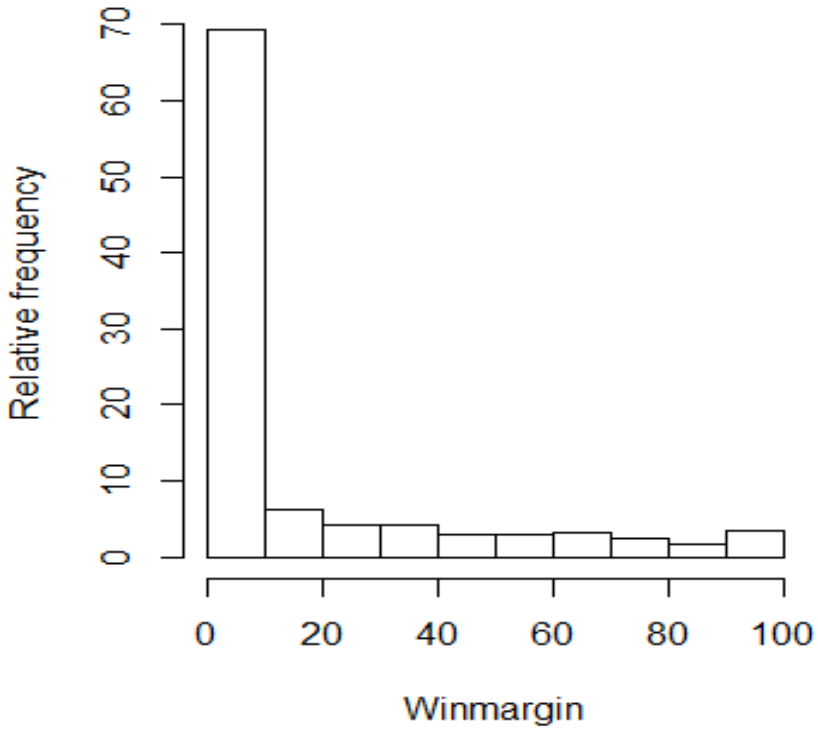

Figure 6: Distribution of *Winmargin*

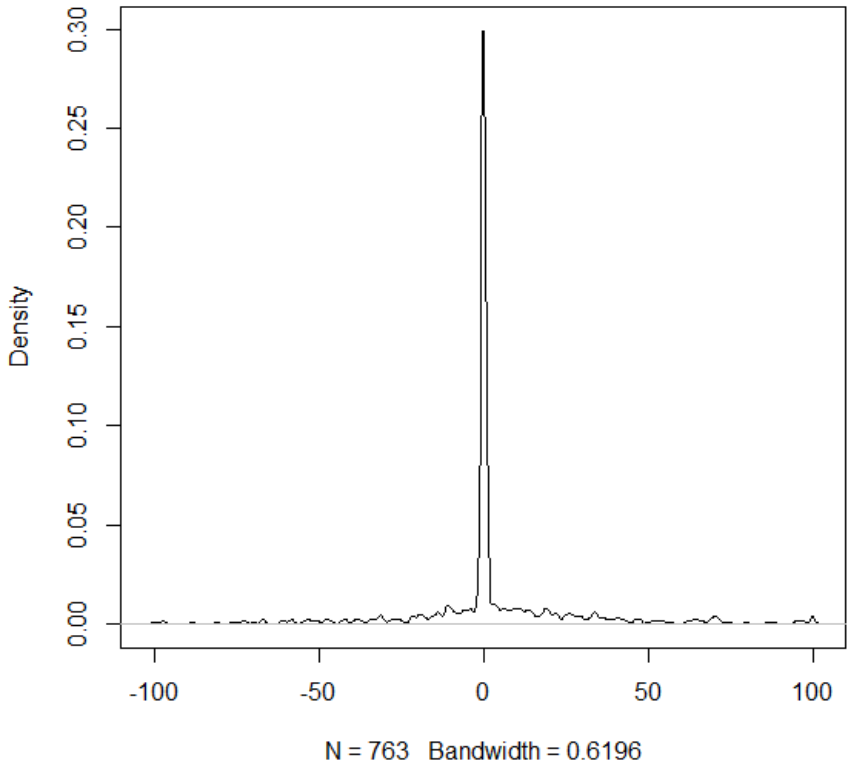

Figure 7: Distribution of Change of Winmargin

Table 17: Model without Big Win-Margin Changes

Budget balance $_{t-1}$	0.491***
	(0.068)
Election	−0.008*
	(0.005)
Election*Winmargin	0.0003*
	(0.0002)
GDP p.c. (logged)	0.013
	(0.016)
Growth	0.074***
	(0.027)
Tax revenues/GDP	0.125
	(0.119)
Rents p.c. (logged)	−0.001
	(0.001)
Aid p.c. (logged)	−0.009*
	(0.005)
Debt service	0.001***
	(0.0002)
IMF	−0.002
	(0.005)
Tenure	−0.001***
	(0.0005)
Observations	471

Note: Autoregressive OLS model with country and year fixed effects. Robust standard errors in parentheses. Constant and FE coefficients omitted from table.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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